

PERMANENT WAY
NOTES

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COMPONENTS.

109lb & 98lb
F.B.

THESE NOTES ARE INTENDED FOR THE GUIDANCE AND ASSISTANCE OF STAFF ENGAGED UPON PERMANENT WAY WORK. THEY DO NOT IN ANY WAY MODIFY, SUPPLEMENT OR AMEND THE INSTRUCTIONS LAID DOWN IN E.D.I., STANDARD DRAWINGS CIRCULARS ETC. WHICH SHOULD BE REFERRED TO IN ALL CASES.

COMPONENTS FOR ONE MILE OF TRACK.

COMPONENT WEIGHTS USED.

RAILS	100-2 1lb/yd	FISHPLATES (109)	54-58 lb/pr.	SPIKES-ELASTIC A1. 1-08 lb/ea	C.I. BASEPLATES	B.R.1. 36 lb/ea
"	98-2 1lb/yd	" (98)	44-29 lb/pr.	" -MACBETH N°3 1-79 lb/ea	"	B.R.2. 37 1/2 lb/ea

CROSSING WORK.
109 lb. F.B.

PLAIN LINE.

	PER 1 IN 8 LEAD B'SMS	PER MILE CROSSING WORK
RAILS TONS	5-95	180
FISHPLATES CWTs	7	212
FISHBOLTS "	3/4	23
BASEPLATES (ORD ST-L) "	29	880
" (S+C) "	27	820
S+C BLOCKS + BOLTS "	9	280
TEE BOLTS "	2	60
SPRING CLIPS "	1 1/2	45
BASEPLATE SCREWS "	6 1/4	190
FERRULES EA	464	14,000
CROSSING TIMBER CU.FT.	206	6250

LENGTHS OF RAILS.	109 lb F.B.			98 lb F.B.		
	NORMAL	1 EXTRA	2 EXTRA	NORMAL	1 EXTRA	2 EXTRA
NUMBER OF SLEEPERS PER RAIL LENGTH.	24	25	26	24	25	26
RAILS TONS.	171-6	171-6	171-6	154-3	154-3	154-3
FISHPLATES CWTs.	86	86	86	70	70	70
FISHBOLTS 2 lb. ea "	13	13	13	13	13	13
SPIKES-ELASTIC A1. "	122	127	132	122	127	132
" -MACBETH N°3 "	135	141	146	135	141	146
BASEPLATES B.R. N°1 TONS	68	71	74	68	71	74
" B.R. N°2 "	71	74	77	71	74	77

TABLE OF COMPONENTS PLAIN LINE.

EXTENT.	RAILS.			FISHPLATES.	FISHBOLTS.	SLEEPERS.	BASEPLATES. B.R.1. OR BR.2.	SPIKES.	
	60'-0"	59'-9"	TOTAL					ELASTIC A1. FOR B.R.1.	OR MACBETH N°3 FOR B.R.2.
YARDS.	N°	N°	N°	PRS.	N°	N°	N°	N°	N°
20	2	-	2	2	8	24	48	144	96
40	4	-	4	4	16	48	96	288	192
60	6	-	6	6	24	72	144	432	288
80	8	-	8	8	32	96	192	576	384
100	10	-	10	10	40	120	240	720	480
200	20	-	20	20	80	240	480	1440	960
300	28	2	30	30	120	360	720	2160	1440
400	36	4	40	40	160	480	960	2880	1920
440	40	4	44	44	176	528	1056	3168	2112
500	46	4	50	50	200	600	1200	3600	2400
600	54	6	60	60	240	720	1440	4320	2880
700	64	6	70	70	280	840	1680	5040	3360
800	72	8	80	80	320	960	1920	5760	3840
880	80	8	88	88	352	1056	2112	6336	4224
900	82	8	90	90	360	1080	2160	6480	4320
1000	90	10	100	100	400	1200	2400	7200	4800
1760	160	16	176	176	704	2112	4224	12672	8448
2000	180	20	200	200	800	2400	4800	14400	9600

NOTES.

"SPECIALS" SPECIAL 59'-9" RAILS ARE TO BE ORDERED TO THE NUMBER SHOWN, EVEN IF THE TRACK IS STRAIGHT, IF THE TRACK IS CURVED THE NUMBER MAY HAVE TO BE INCREASED TO THE FOLLOWING :-

NUMBER OF "SPECIALS" = 20 x LENGTH OF CURVE / RADIUS OF CURVE

M.B. MINIMUM CURVE WHICH CAN BE LAID WITH 60'-0" AND 59'-9" RAILS IN EQUAL NUMBERS IS 17 CHS. RADIUS.

FOR SHARPER CURVES, EITHER -S" SPECIALS (59'-7") RAILS MUST BE USED, OR THE JOINTS MUST BE STAGGERED, OR SHORTER RAILS MUST BE USED.

NUMBER OF SLEEPERS PER RAIL LENGTH.

A, B, C (RELIABLE WITH NEW MATERIALS) ROUTES, PASSENGER LINES ONLY PER 60'

- IN STRAIGHT TRACK & IN CURVES OVER 40' RADIUS. } 24
- IN CURVES OF 40'-20' RADIUS, AT WATER TROUGHS, IN TUNNELS OVER 1/2 MILE LONG & ON SOFT FORMATION. } 25
- IN CURVES UNDER 20' RADIUS & IN SEVERN & CHIPPING SOBBURY TUNNELS. } 26

M.B. IN ALL OTHER LINES. 24.

FOR LARGE SCALE ESTIMATING PURPOSES

PERMANENT WAY FITTINGS MAY BE EQUATED TO YDS OF KING WORK AS FOLLOWS :-

- SINGLE CONNECTION 2 3/4 CHS
- DIAMOND 3 3/4 "
- SINGLE COMPOUND 4 3/4 "
- DOUBLE COMPOUND 5 3/4 "
- 3-WAY CONNECTION 4 "

BALLAST (TOP) . 600 CU YDS PER MILE OF PLAIN LINE OR KING WORK (APPLIES TO RELAYING ONLY, NOT NEW WORK)